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Creating a Creativity Class in the Elementary School: Research and Development

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Dates of Approval:

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Project Advisor

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Candidate

Abstract

This project researches the need for a creativity class in the elementary school. Through literary research on current best practices in 21st century education it becomes apparent that schools must alter what they do in preparing students for the future. Changes must be made to foster and value creative expression and creative problem solving. The goal of this project is to investigate how implicit and explicit creativity training and Creative Problem Solving (CPS) work with fourth and second grade children in a private school. The project outlines the steps taken to spread awareness about the importance of offering a creativity class through word of mouth and a written proposal. The actual class that will be offered has not been tested and is not included in what follows, however the process of getting the class approved, which includes validation from the experiences with the students, are explained. The completed work concludes with permission granted to offer the class in the 2012-2013 school year.

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Date

Privacy Note:

The video production made as part of the proposal for the creativity class will not be included on digital commons. This decision was made to respect the privacy of the students and their families. The video; however, will be explained and debriefed within the project contents.

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Section One: The purpose and description of the project

"Creativity is a lifestyle, a way of living, a way of perceiving the world, and a way of growing. Living creatively is developing your talents, learning to use your abilities, and striving to become what you are capable of becoming. Being creative is exploring new ideas, new places, and new activities. Being creative is developing a sensitivity to problems of others and problems of humankind." – Gary A. Davis

The purpose of this paper is to promote the teaching and facilitation of creativity and creative problem solving skills as vital parts of education as compared to math, literacy, science, and technology. Today, schools are trying to prepare children for 21st century jobs, some of which do not even exist yet. Without a doubt the skills that will be required of new graduates will include research, development, design, marketing, and sales. The common denominator in the high-paying jobs of the future is creativity (Trilling & Fadel, 2009). Everyone can agree that creativity is important, but now it is more important than ever because of our rapid advancements in technology. It is imperative that schools nurture this skill that we are all born with.

Children today know more about digital information and communications technologies than their elders: their parents and teachers (Trilling & Fadel, 2009). This switch in understanding is completely backward from the rest of history. Sir Ken Robinson describes this as "the biggest generation gap since rock and roll (Robinson, 2009). While these "digital natives" have a superior understanding and acceptance of technology, the "digital immigrants" also known as parents and teachers are trying to

keep up and appropriately structure the use of such powerful tools (Wagner, 2008). Educators and parents try to keep current if not a step ahead of what their children are discovering through the Internet and other digital media.

While children become more tech savvy as a result of this immersion, other skills, which adults expect children to have are not valued, taught, and reinforced as much as they once were, especially at home. Different family dynamics allow for divorced, single parent, or two-parents-working households to feel guilty about lost time with their children. They spend money on new shoes, a smart phone, video games, etc. to "fix" parenting issues and disconnection with their children. They also try to solve their children's problems or do everything for them because of the guilt they feel or because they want to be helpful. Parents excessive involvement in their child's decision making and problem solving are not limited to just these types of families. Children are able to act out to get what they want because it has worked many times over (Bean, 2012). They face life with little problem solving strategies, an unrealistic expectation about life, and entitlement (Spears, 2007). Stephen Covey (2004) explains when children are indulged, "…they grow up without any internal sense of standards or expectations, without personal commitment to being disciplined or responsible." Ehrensaft (1997) comments that "Parents today are tagged as a generation preoccupied with work and themselves yet at the same time overly focused on their children."

Rationale for project

Herein lies my motivation and rationale for this project. Instead of complaining about the lack of self-help and problem solving skills of my students or wishing they

were more creative thinkers in the midst of technology, I've set out to research where their skills are currently and how to build off those skills through creativity training. Everyone is born wanting to learn and everyone is born with problem solving skills. Infants are a perfect example because they are constantly trying to perform difficult tasks, like walking and talking. We can't do that for them and eventually it happens. They aren't concerned with failure or being embarrassed, which are learned behaviors (Dweck, 2006). Somewhere along the way we lose that drive to learn to get better and just want to be right all the time, sometimes we expect this in the absence of effort. While creativity can drastically improve the likelihood of success in the work world, it more importantly can help them become better people, better citizens of a community, and the leaders we want shaping tomorrow.

I hope to start a creativity class at the school where I have been teaching math for the last six years, Elmwood Franklin School (EFS). This class will explicitly teach Creative Problem Solving (CPS), tools for solving problems, and how to be creative in everyday life to help accomplish one's goals. This project describes the research and observations of deliberate creativity teaching and CPS training that will be used to structure a class in the 2012-2013 school year. The proposal for the class, which was presented to administration, was also a big part of this project. Through this project and the ongoing work I will be doing in the field of creativity at EFS, I hope to gain the respect of my colleagues and the administration so that creativity and I are viewed as invaluable resources to the school.

This project lays the groundwork for creating the class, which is beyond the scope of this project happening in the summer of 2012. Evaluating the students' responses in

and around creativity as well as gaining credibility at my school is the focus of this project. These trial and learn experiences and observations will be used to appropriately structure a class that will hopefully be part of our curriculum and advertised as something special that sets us apart from other schools. While many schools like to say they foster creativity, we would be making it part of our culture through professional training. I will investigate how children respond to CPS and what capabilities and limitations exist in going through the process.

How might Elmwood Franklin School, and education in general, benefit from creativity classes? In the past two years, Elmwood Franklin has tried to be on the cutting edge of technology in education. With a SMART board in every room and a 4:1 student to iPad ratio, we are trying to make an impression on the community as a 21st century school preparing 21st century kids with these technological tools. Creativity and innovation has to be part of that piece as well. Seeing how technology and our world has changed, it becomes obvious that the ways we teach must change to be more in tune with the demands of our times and the needs of the students (Trilling & Fadel, 2009). In looking at how we can be unique among other schools, it is imperative that teaching creativity be part of the plan. It would be great if perspective families could see how we value creativity and creative problem solving, as well as teach it. While the faculty is trying to be as computer literate and technologically savvy as possible, it is also essential that we be good problem solvers and leaders. Teachers should model behavior they want to see in their students and let them see the process of struggling through issues and ideas in helping to solve problems (Firestien, 1995).

EFS has an incredibly strong academic program that fortunately extends beyond the core subjects. We continue to value the arts by not making any cuts to our music, band, or art classes. Every grade also puts on an incredible play each year, has physical education and recess every day, and the older students participate in a 3-5 day outdoor education experience. Just as we have an academic and technology curriculum, it would be smart to have a creativity curriculum that outlines how we are teaching creativity skills at different grade levels. Wagner (2008) advocates the following 21st century skills we need to develop in our students: critical thinking, problem solving, collaboration across networks, leading by influence, agility, adaptability, initiative, entrepreneurialism, effective oral and written communication, accessing and analyzing information, curiosity and imagination. Obvious links to creativity in the above list are critical thinking, problem solving, entrepreneurialism, curiosity and imagination. Initiative, communication, and accessing and analyzing written information associate less obviously to creativity skills and tools but are present. Connecting academics, technology, and creativity is the total package of what parents should hope for in an education for their child. I have illustrated this trifecta below.

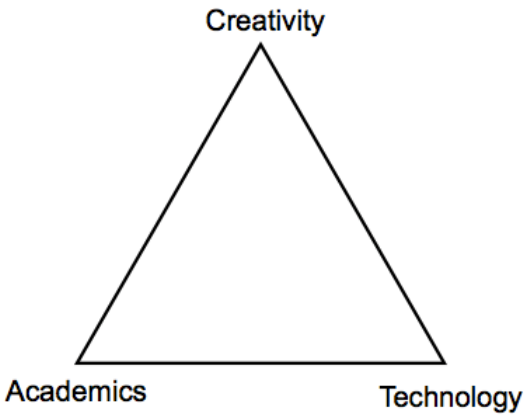


Figure 1. Creativity, technology, and academics triangle

Technology is not the answer to education in and of itself; rather it is a tool to learn (Wagner, 2008). We advance through life with these invaluable technological tools with creativity skills as our vehicle, driving us to do better and want more.

As a six-year faculty member I feel that I can make a difference by using the knowledge and skills I've learned in the Creative Studies Program to take action and lead this change. I want the class and CPS skills to intrigue the parents and make them grateful that our school is teaching such essential skills. It is so important that they see and value more than just critical analysis and reasoning associated with words and numbers, as there is much more to intelligence than this (Robinson, 2009). I want them to be able to eventually implement strategies at home because they see how powerful it has been for their children at school.

I am highly motivated to use CPS and creativity in my school. I think students can benefit from this type of thinking because a lot of the thinking we ask them to do, especially in math, seems so black and white. Thinking to the future and seeing students be more creative thinkers and responsible problem solvers, pushes me to make it happen, because if I don't, no one else will. Creativity in the curriculum will help validate our mission statement, which says that we foster creativity and innovation. There aren't many schools or businesses that don't value creativity and boast about it in their mission statements, but how are we really doing it (Breen, 2007)? In bringing a class to our students, we are living our mission and not just hoping that it happens along the way. I believe children's minds are sometimes overlooked as powerful tools. It is hard to know much about them because they are so young and constantly evolving. Like learning has a

wide range of understanding, I am interested to see a wide range of their creativity and how that grows as they have more experience in the world.

Creative teaching or teaching creatively vs teaching creativity and having the children be creative

It is important to understand and appreciate the difference between the two ideas listed above. Teaching itself can be considered an act of creativity (Keller-Mathers, 2009). Schools ooze creativity, and its teachers get more creative everyday because every aspect of their job requires them to be creative. From how they plan and present lessons to how they facilitate positive social interactions between their students, teachers are constantly solving problems and creating new and useful ways to teach, remediate, and enrich lessons. This, teaching creatively or creative teaching, is different than deliberately fostering the creativity and creative thinking of the students. Instead of the teacher doing the creative thinking, it is the students who are fully engaged in this process. While both are extremely important to the success of the learning experience, the later is undervalued in schools. While many might be quick to object saying that schools want their students to be creative, we have to stop and think about *how* we are teaching them to be so and what we might be imposing to prevent it. Our education is very focused on math and literacy intelligences and hardly values the other intelligences, such as musical, kinesthetic, intra-personal, etc. as noted by Gardner (1989). If you disagree, think about testing and what skills they deem important; it is a hierarchy with math and literacy at the top, then the humanities, and the arts at the bottom (Robinson,

2006). This type of testing starts in elementary school and the focus remains similar all the way up to the SATs.

All people are creative and we have to build upon this innate skill instead of educating people out of it. Many people have lost the ability to see themselves as creative people. Sir Ken Robinson (2006) said it well when he spoke about school's focus on testing, memorization, and basic skills not being good for creative development. There is a lot of stress on teachers and students to perform on testing. While I spoke about the high level creativity of teachers in the above paragraph the opposite is true as well --teachers are driven away from being creative because of the stressful state testing and teacher evaluation systems. Lower stress levels usually contribute to more creativity (Dayan & Di Benedetto, 2011). Studies also show that a happy mood loosens the logical systems in your brain therefore allowing intuition and creativity to flow (Kahneman, 2011). Instead of teaching creatively, teachers want to directly drive home the facts so that their students can perform well on tests.

While testing and performance sometimes hinder teachers' creativity, students' creativity is also hindered by this, and the ways we structure our learning programs. Teachers have a hard time "keeping open" because they are afraid that somehow letting the students think freely, and perhaps not always correctly, in an academic sense is doing them a dis-service when actually the opposite is true. While there is value in not re-creating the wheel, we limit mistake making and give students everything they need. Naturally giving someone what he or she needs isn't necessarily a bad thing, until we can't or don't do it for them anymore. When students are asked to do critical thinking or

independent learning they don't know where to start because of this dependence that was developed in their childhood.

Rules, acceptable behavior, and academics often contrast with creativity. Torrance and Goff (1989) noted that creativity is contrasted with conformity. Many teachers would agree that conformity is a good thing in schools when describing behavior, schedule, and structure. But there needs to exist a balance between control and creativity. When is it developmentally appropriate for children to start making their own decisions? And which decisions? In helping them to be successful people and students, where are we stepping in too much? Why is the focus on remembering versus creating, even when it is at the top of Bloom's Taxonomy (Anderson, Krathwohl, & Bloom, 2001)?

Section Two: Methodology and project plan

In Section One I described the importance of incorporating creativity teaching in a 21st century education. Knowing how students currently view creativity in their lives and how using creativity to help project them into their future, successful selves will help build structure for the class. My observations and reflections along with other issues teachers feel could be addressed in the class will help to create a class teaching creative problem solving and creativity skills and tools.

Goals of this project:

- Create a video highlighting creative teaching using the students to show to faculty and administration.

- Write a proposal to teach the class and make it a part of our curriculum starting with the fourth grade class.
- Understand how students view creativity within them as well is its impact on the world.
- Observe and celebrate talents and creativity skills that they already posses.
- Learn about creative/successful people and the necessary effort involved in doing your best and being successful.

Future Research:

- Determine how student's problems can be used to structure and springboard discussions and the use of creativity skills and tools.
- How to create lessons plans that teach and use creativity skills and CPS so that there is an awareness and appreciation for creativity.
- How creativity can help them be a better friend (defer judgment). Takes the focus off not being critical to prevent being a bully, but to help the creative process.
- How to help them with attitude/self-esteem building and reaching self-actualization?
- How to foster creative thinking, empathy, and differing judgment through role-play?

In finding what should be included in the class I will incorporate creativity tools and CPS strategies presently within my class. I eventually would like to teach other teachers about how to deliver creativity classes and strategies to their students. Not only should the kids be trained but also the adults. They need to believe in the process and

validity. Watching teachers resist new things to incorporate into their already busy curriculum and extracurricular events, I am waiting to share with them how they can get involved. I want them first to believe in the deliberate teaching of problem solving skills and working towards creating a safe environment that will foster creative thinking.

I will investigate how creativity and free thinking/experimentation clashes with school rules and the mind of the impulsive, egocentric child. It may also be possible while they are still egocentric in maturity they are also very involved in knowing other people's business and trying to solve problems that aren't their own. How are kids following the rules yet being able to express themselves creatively? I will investigate which age/maturity level is appropriate to start solving problems using CPS. Attitude is a major component of the creative process. I hope to learn the attitudes of students towards learning and creativity. I want to heighten awareness at my school for a need to be creative.

I will conduct research in two different grade levels: second and fourth. These experiences will be video recorded so that I can review and debrief the sessions to get a deeper understanding of what happens during creativity exercises and CPS. Selections of the tape will also be included in the video montage.

I am particularly interested in fourth grade because of the social as well as academic challenges at this age. Students seem to lose the desire to learn as material becomes less "fun" which is known as the fourth grade slump. At around the age of nine, or fourth grade, students have the "greatest personality disturbances, behavioral problems, learning difficulties, and the like" (Torrance, 1967).

The second grade experience will involve a creative problem-solving situation of a second grader who chews pencils. The exercise will go on for three days, which allows time for the interview, warm-up brainstorming, and finally working through his problem.

Second graders as well as fourth graders will participate in a game called, "This is a…" where they have to think of alternative uses for an object.

Fourth grade will have a more formal class about creativity. These experiences will also be carried out over many days. I will facilitate the same warm-up CPS session as I did for second grade. We will talk about creative products and the rules for generating ideas. They will learn about Card Sort, which is a creativity tool used to strengthen and organize ideas (Miller, Vehar, & Firestein, 2001). They will use the tool to order lesson ideas they have brainstormed to teach another group of fourth graders about comparing fractions. Last, fourth grade will fill out a questionnaire asking them what creativity is, if and how they are creative, and why creativity is important. A blank questionnaire can be found in the appendices. (See Appendix C).

All of these objectives will be done with as little background information as possible so that I can understand their initial views on creativity.

Section Three: Outcomes

Spreading the word

Everyone at EFS knows about my Master's work in creativity. Perhaps they have heard it sometime during my five-year journey or maybe it was more recent as this year I have been advocating heavily for a creativity curriculum. The challenge with anything new is the reptilian response to new ideas: Can I eat it, run, or attack. (Miller, Vehar, &

Firestein, 2001). When talking about creativity I've noticed another response, which is silence. I saw a need to validate my education in a way that was concise, awesome, and obvious. Although my major objective was to get permission to teach a creativity class next year, I sought out to bring creativity into daily life however and whenever possible. During a professional development day I asked the Head of School if I could facilitate the "task force" on teacher evaluation. While the Upper School Head was in charge of the facilitation, he was interested in hearing more about the process. Because he did not communicate with her before the session, she ended up facilitating.

I saw an opportunity to spread the word through an influential parent/board member. His possible visions for the future of the school are endless. It is refreshing to have someone coming up with lots of directions the school could move in so that we can be constantly improving. I decided he would be a good person to bounce ideas off of and get on board with my class. I shared the Ken Robinson Creativity TED talk with him, which helped me open that line of communication. I also shared my ideas on creativity with another parent and board member. She was very excited about implementing the class and I know she will be a great resource and advocate in the process.

Another task force of faculty is working on how we are educating 21st century learners. After the presentation I shared how my education in creativity could greatly enhance how we bring creativity and innovation to the students. I shared my idea for a creativity class next year. While there wasn't much feedback after my initial statement, one of my colleagues came to me afterward and expressed her interest in the class and how she would like to be involved!

A week after the faculty meeting I had a great idea on how exactly to format the class so that it complements something we already do. After a brainstorming session with my students, I was thinking of potential problems a third and fourth grader might have in any aspect of their life. Sometimes we expect children to have social strategies or problem solving skills when they have never been taught. As their teachers, we have noticed that students lack the ability to own a problem and know they can take action themselves in solving it. While writing this list, I realized how well creativity lends itself in developing an aware, independent, and autonomous child. I associated the skills and problems I was writing to a program we have for our kindergarten and pre-kindergarten children called Friendship Club. Friendship Club is an ethics and morals curriculum developed by one of our Kindergarten teachers that is specifically geared towards young children. It spirals through topics such as honestly, integrity, respect, perseverance, compassion, manners, patience, and understanding the similarities and differences in us all. I spoke to my colleague who runs this program about expanding it to include fourth grade in some way and she was ecstatic. This was the perfect way to introduce this creativity class because it is an extension of something we already have that is so beneficial to the kids. While the class would focus on creativity and problem solving, it will have an underlying thread of being a better friend, citizen, and person who has an awareness of how they contribute to the world. It works well because they are not seeing this as blatant, touchy-feely, character or anti-bullying education but as a way to grow their brains, be leaders and critical problem solvers, and also have fun.

Creativity Video

After brainstorming other ways my ideas about creativity could be heard, I decided to make a video highlighting some of the results from my CPS sessions and creativity talks with the students. I felt that creating the video would be captivating to the other teachers but it also got the students more excited. After filming them without their knowledge, I told them that I would be making a video of their thinking and problem solving and they were very enthusiastic. This video has the potential to be more exciting than just hearing me talk because the students are so animated and the video was edited to make it more even more entertaining. The video shows potential, credibility and success within the students in the video and takes the pressure off of me to present in front of the entire faculty.

The video will be shown at our next full faculty meeting to show the students unscripted thoughts on creativity and working through a problem using CPS. Making the video was not as easy as I envisioned. Having never used iMovie or any other video editing software, I had to learn how to use the program first. After videoing the students involved in different activities, I picked the most pertinent clips and compiled them into a 3 ½ -minute segment. To keep the viewers interest I did not make the video as long as it could have been. The video highlighted a brainstorming session with fourth graders on what creativity is, talking about a creative product, and observing their natural tendency to play. The video also shows parts of a warm up session with second graders who brainstormed ways to improve a bathtub.

Creativity Experiences

The research gathered in my project will be used to create a creativity class for the 2012-2013 school year. As mentioned in section two I worked with two grade levels: second and fourth. While there were similarities and differences in how the experience carried out, fourth grade will be a good age to target initially for the creativity class. There are many reasons why fourth grade is where I want to pilot the class next year. First, fourth graders are the "leaders" of lower school. In setting a good example for the younger grades and preparing them for Upper School, this year is appropriate for teaching good problem solving strategies. They have enough base knowledge where they can really think through problems and relate pertinent information to new experiences and potential problem settings. Kaufmann (1998) supports that in problem-based learning, having base knowledge is necessary for creativity. "We may now expect that high-level creativity is crucially dependent on a large amount of well-organized domain-specific knowledge. Before the fruits of creativity can be reaped, then, we may expect that a long history of building up domain specific knowledge and skills must precede (Kaufmann, 1998). Fourth grade is also a time where friendships need to be maintained along side differences of opinions, and academically they are also facing the "fourth grade slump". Creative problem solving can help students process situations and work through these challenges so that they are more prepared for future challenges.

My students love talking about creativity. While they love doing math, they were excited, intrigued, and a little intimidated to try something different from our normal routine. As Puccio, Keller-Mathers, and Treffinger (2000) suggested, I changed the language slightly so that it is more appropriate for fourth graders. I will not add as much

of the dressing up and props as was noted in their book because I think it is too young for fourth grade and might encourage too much childishness; however, I did display toys and games during the session to allow for playfulness and forced connections (Miller, Vehar, & Firestein, 2001). After reading the visual accommodations in *Adventures in Real Problem Solving* I remembered a tool I created years earlier similar to The Six Thinking Hats by Edward deBono (1999) which used hats to categorize different ways of thinking, i.e. factual thinking, positive thinking, etc. The tool asks the idea generator to imagine him or herself as a different person, such as a younger child, millionaire, or Oprah, indicated on the card. The student then asks himself or herself, if they were this person, what would they do? The card has a picture on the front to heighten anticipation and a note saying not to turn it over. During the brainstorming, perhaps when the flow of ideas slows, the facilitator asks everyone to flip over their cards and generate ideas from the perspective of the person on the card. This will be included in the creativity classes. Another beneficial tool I will bring to the curriculum is the Idea System. Customarily an Idea System is a notebook or other place where a person puts his or her ideas to refer back to and build off of. They will have an option to use their iPad to record their ideas etc. Pictured is a second grade student who already has an Idea System.

Figure 2. Student with his Idea System

Using Card Sort to organize their math lesson on comparing fractions was very effective. We brainstormed ideas together and I had them select the ones they felt most comfortable teaching. After we brainstormed what and how to teach comparing fraction we also talked about some concerns and ways to overcome them. After listing potential problems of teaching the other class, the students did a great job generating ideas to overcome them. The concerns and ways to overcome them were very insightful, many of which I had never considered. Students were afraid that they wouldn't know the answers if they asked questions, while others worried that they other group wouldn't want their help at all. One student suggested that the other group teach us something that they've learned to overcome the concern that my group was "smarter" because they were the ones teaching. They had a one-on-one teaching experience with another student in fourth grade who is in a different math group. My group taught a skill we learned and the other group taught my students something that they had previously learned. SMART board screen shots of the brainstorming are in the appendices. (See Appendix B).

After sending my proposal to the Lower School Head, I had a meeting with her to further discuss the possibility of offering this class. She was very excited and agreed that it would be a great addition to what our school already does. She said fourth grade would be a great starting point for the class, especially in the upcoming year because fourth grade is piloting a new program: one-to-one iPads. It will be a great balance between technology, academics, and creative thinking, which was mentioned in section one. We will then send the message that technology it not the answer and will not do your thinking for you. We need creative thought, expression, and problem solving to make the tools that we have work. CPS could also be used with the students to brainstorm solutions to

problems that arise while using the iPads, such as keeping the iPad safe, being safe on the internet, and how not to get distracted by games.

Section 4: Reflections and key learnings

Overview

This project required a lot of research to defend the necessity for teaching creativity to the students at EFS. By implementing creativity ideas and facilitating CPS sessions in my classes I gathered important information on students' limitations and strengths in creativity. The questionnaires were also very helpful in how the fourth graders view their own creativity and the importance of creativity in everyday life.

This project has shown me that a creativity class would definitely be beneficial to the students. They were so excited and curious about what we were discussing. We could have had conversations for hours about creative products and ways that they themselves are creative. Having the students support helps the class be successful from the start because they want to be there. Since it is not domain specific, it also gives students who are not especially strong academically, a chance to have a voice and show other strengths. Creativity can be taught in an abstract, content-free setting or embedded into a subject area (Davis, 2004). When going through the exercises we looked at creativity independently and then how we can use it to help us think about math.

Some decisions and problem solving are better made by adults, after all this is part of parents and teachers jobs. However, some problems that seem better made by adults will have better follow through if a child is allowed to solve it himself. A perfect example of this was seen with the child who chewed pencils. He did a fantastic job going

through the process but ultimately chose his first idea of chewing gum. This perhaps was a more desired outcome and a privilege in his mind from the start. While he did want to solve this problem for various reasons, it seems chewing gum while his peers could not, won out among the rest. This was discouraging because when he was selecting ideas after idea generating there were many excellent alternatives he "hit," or liked, in helping him solve his problem. We talked about the possibilities but he was sold on the gum, which was not allowed. After another meeting with the parents, they ended up solving this problem by using fear to get him to stop. He wasn't afraid of potentially destroying his teeth, internal organs, or loosing friends, but he was afraid of something his parents said they would do or take away. I believed this problem solving was unsuccessful until I received new information from the Lower School Head. Since she was on maternity leave, she was not present when this problem was occurring and the CPS took place. Upon her return she allowed the student to chew gum. "Without involvement, there is no commitment" (Covey, 2004). We discussed that possibility of success due to that facts the solution was his idea. In the end, the student did ultimately solve his problem but in doing so needed the help of adults. His second grade friends in the resource group had excellent divergent thinking skills and were able to generate a lot of interesting, unusual, and plausible ideas. It was also clear that some students were stronger than others in their creative thoughts and forced connections between objects and pictures that were presented.

I talked more in-depth about creativity with the fourth graders. The class will be a great fit for fourth grade because it is something new to get excited about. You can see the knowledge they've gathered and been exposed to come together to form new ideas

and expand off existing ones. An issue that didn't occur to me until it caused me some panic was discipline. This is something that can be expanded on in the future as it was outside the scope of this project. There were plenty of times when we had to stop and regroup. The important thing to remember when facilitating this class is to step back and ask if they are growing their creativity from this experience. Safety and respect should be highlighted as the more important two rules. Without establishing that climate, it is nearly impossible to think creatively. More research can also be done in older grades and the impact CPS has on adolescence.

Creativity Video

Making the creativity video was an awesome way to highlight some key ideas about creativity. The students really enjoyed watching themselves as well. It is interesting to see how children respond to creativity as opposed to adults. Reflecting back to my first creativity class, being asked if you were creative or what it was in general, was a very uncomfortable question. No one was exactly sure. The fourth graders on the other hand had no reservations. We quickly brainstormed a list of what creativity was to them, which included people, places, and products. People who were mentioned included hockey players, namely Zdeno Chara, teachers, including myself, and Chuck Norris.

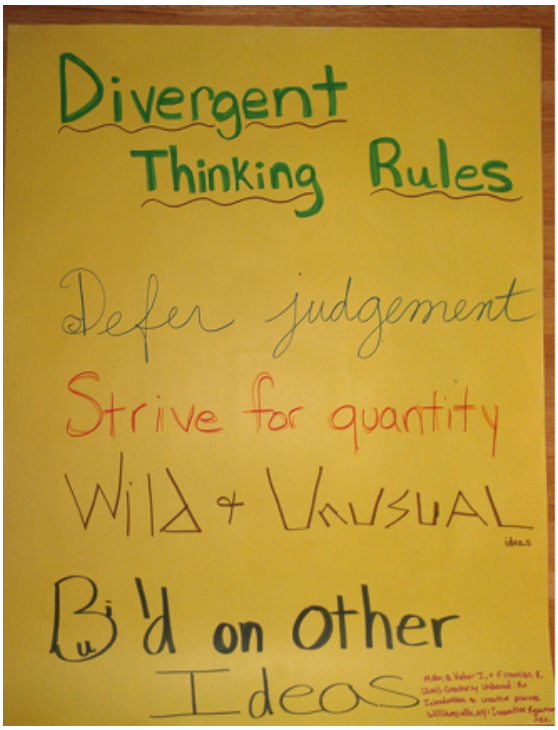
Figure 3. Bob pencil

Bob and Martha, two of the items on our list, are the names of two pencils. The pencils in my room kept disappearing and I needed to find a way to prevent this from happening so I gave them names, which ultimately led to identities. No one wanted to lose Bob and Martha and they stayed in their home, a cup on my desk, until they got too small and we had to name another pencil – Francis. Colors, music, nature, hockey, life, and everything were also on the list. A limitation that I observed after viewing the tape was that some students were very vocal while others did not participate. A goal of the class must then be to facilitate the inclusion of everyone's ideas by using different tools, such as Brainwriting. Brainwriting allows for everyone to generate ideas in silence on paper. It is possible to build off the ideas of others because only a portion is filled out by each resource group member and then passed to somebody else to continue generating on the sheet (Miller, Vehar, & Firestein, 2001).

The second graders showed amazing fluency when generating ideas to improve a bathtub. Some ideas included a robot to massage and apply soap, tunnels, fish, adding a green screen so you can select backgrounds, TV, buffet, trampoline inside, made of cushions, and making the bathtub larger.

While reviewing the footage and selecting clips for the video I noticed that the students were naturally talking about some of the ideas we have discussed in the Creative Studies program. I highlighted them with effects in the video so that the viewer can learn while watching the students demonstrate. Without prior knowledge, students worked within a framework developed by Rhodes (1961) identifying four areas where we see creativity: people (teachers), products (hydro-calculator), process (hockey, music) and press (nature). Students recognized the value in novelty that's useful when discussing a

hydro powered calculator. They thought other ideas to power a calculator, like solar energy, might have helped the creator develop this new calculator. They also understood that this act of creativity was improving on something that already existed because water is a renewable energy source. Both grade levels used the forced connection tool by trying to generate ideas while being prompted by objects or pictures. Thinking about them in relation to the problem helped generate unique ideas.



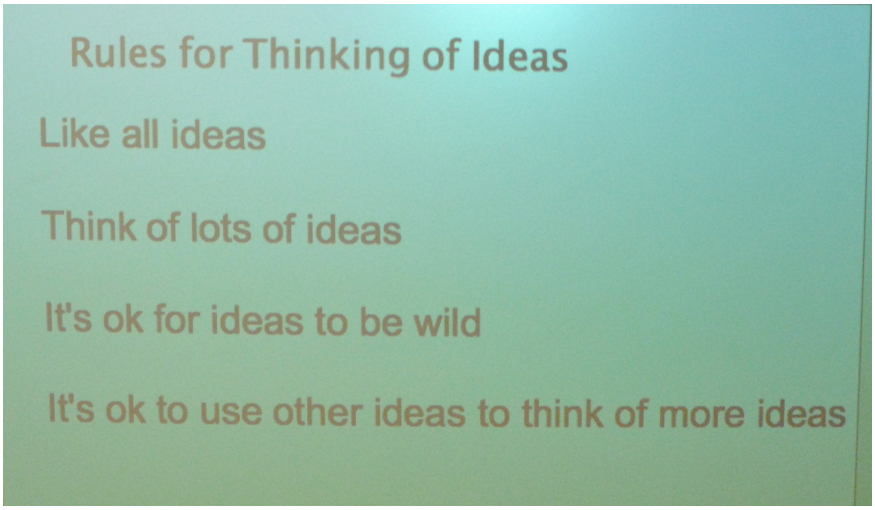


Figure 4. Divergent thinking rules

It become apparent that even though we discussed the rules of divergent thinking prior to brainstorming, this is something that students will need to practice. I would not say it's a limitation to children engaging in CPS but rather a lack in skills that adults have more control over. Some students argued or judged the validity of other's ideas, and therefore found "deferring judgment" difficult. Some students found it difficult to keep generating and wanted to stop prematurely. It is no surprise that student's wanted credit

for their ideas and did not find it easy to accept that people were building off of their ideas. Independent work is valued and tested more by educational systems even though working together is an important and necessary skill in adulthood. The easiest guideline to follow was to seek the wild and unusual ideas and this was also not a surprise.

During the game "This is a…" both grades were able to think of a lot of different uses or other things the chalkboard eraser could be. Some of the listed items were: fake grass, dog brush, block, makeup brush, tickler, coffin for a bug, phone, floor scrubber, sponge, domino, and fake grass.

What teaching creativity looked like

Teaching creativity is much different than teaching math. For me, being a facilitator was uncomfortable because I usually have more control over the content and process. The purpose was to let the students lead the investigations and explore their creativity. So many times I halfway jumped in to add or redirect thinking. It is so hard not to be involved in the process with them. The wait time and incubation period was so painful that it almost seemed unfair. It seemed so much easier to tell them

My style of teaching is having control, however I realize that this must be balanced with a little chaos in order to foster creativity. Through this I can create an environment that encourages questioning, revolves around patience and trust, and values making and learning from mistakes and failures (Trilling & Fadel, 2009). I enjoy when kids are learning collaboratively, but for me to feel comfortable they have to be on task. When I was teaching I felt the push and pull of the process feeling wonderful and awful at the same time. Knowing the playfulness of students I should come to expect that they

are going to play with the rulers and many of the other manipulatives I put out for an activity. Usually I let them have some time to play with them but it is such a distraction. When the kids came in for the CPS session, I was relaxed and I could just let them play without worrying about it deterring from the learning. This was especially evident after watching the video. It was a moment of epiphany that was so obvious: Kids want to play. While it was enjoyable to watch them act like children it also made them wild and made me lose control of them. They were loud and anything but serious. While they generally understood the objectives, they were so silly and I feared this was distracting them from the objectives. I noticed myself being much more impromptu with parts of the CPS process, implementing them when I saw the opportunity.

Researching the response to creativity training

When students see me in the hall they love to tell me about creative things they've seen or things that they've thought about. It has definitely deepened my relationship with the students in the way they trust me. They are very open because of all the discussion we've had in class about mistakes and judgment. Talking about creativity gave them another outlet to express themselves to each other and me. Integrating tools into my math instruction was easier than I expected and when I told my students that they were using a creativity skill you could tell that they felt like they were getting smarter.

The fourth graders filled out a sheet asking them about their thoughts on creativity. Students were asked what their definition of creativity was, if or why they believed themselves to be a creative person, describing what a creative person is like, and if creativity is important. A blank form and some student samples can be found in the

appendices. (See Appendix C). Out of the 14 students, two thought they were not creative; one because she sees herself as a "logical" person. Common words used to describe creative people were: dreamer, imaginative, calm, relaxed, funny, full of life, nice, brave, playful, and inventive. One student's description alludes to the incubation, which is a break from the active pursuit of a solution to the problem (Puccio, Murdock, & Mance, 2007). She said, "Creative people are sometimes people that stare off into space during work time so that they can get creative." It was so important that the students believed creativity is important which was evident in their responses. They also did not have trouble thinking of ways in which they are creative or seeing how creativity is everywhere in the world. This awareness helps them appreciate the new and old things that happen all around us everyday.

In moving forward with bringing creativity instruction to EFS, it is important to remember all that the topic entails and to use parts of my creativity training wherever and whenever possible. It can be more casual than the formal process, which invites more opportunities to use different skills. For example, I was doing a lesson on fractions involving pattern blocks with second graders. It is very difficult for them not to play with the blocks, so after we finished talking about fractions I let them create with the blocks. We talked about what our creations looked like and invited other people's comments by incorporating the "Look At It Another Way" creativity skill used in the Torrance Incubation Model (TIM) (Murdock & Keller-Mathers, 2008). This allowed for deferring judgment and Keeping Open, a TIM skill, because many of the students only say the creation in one way. I had them use the words, "Yes, and…" when commenting and sharing their perceptions of other students' structure. I asked them to accept the other

ways of describing the shape and we appreciated how people can see the same thing very differently.

Conclusion

There will be a creativity class for fourth grade starting in the 2012-2013 school year. It will be taught initially during Option time, which is the last 40-minute period of the day on Wednesdays. The 40 students in fourth grade will be divided into three groups and they will rotate every week. I hope that after a years time the class will be successful enough to be offered to more grades. The curriculum will focus on teaching creativity skills and Creative Problem Solving and will be created over the summer. An underlying focus on self-actualization and social growth will be woven through the skills and CPS sessions. I have already received articles from my colleague who teaches Friendship Club, which will be very helpful and I feel very supported by administration. The video that I created was a great way to showcase the creativity I was already putting in place in the classroom and how positively the students responded. The extensive literary research I did will continue to help me talk about the importance of creativity in our school and every aspect of life.

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Appendix A. Class proposal

To: Sarah Duddy
From: Alyssa Charles
Date: April 12th, 2012
Subject: A proposal to implement a creativity skills and creative problem solving class for fourth grade students

Purpose

I am writing to propose a solution to the social, psychological, and retention problems in fourth grade. Often the importance of academics takes backseat to social acceptance, which is known in the education world as the "fourth grade slump." At this age, children are trying to find their identify and trying not to rely on the guidance and protection of their parents. This desire to pull way is made difficult because of parents' intense involvement in decision making thus far. This is often a time when parents look elsewhere hoping that a change of school is their best option. Starting a creativity class will help students continue to enjoy learning, problem solve social issues, and reinforce to parents that EFS is training students with more 21st century skills than any other school, not just in technology and academics.

The Need for a Creativity Class

Currently Elmwood Franklin has an excellent academic program that is constantly evolving to meet the needs of every learner. The integration of laptop and desktop computers, smart boards, and ipads has also made EFS a school that values technology and trains students to use them successfully.

Our curriculum lacks the deliberate training of creativity and creative problem solving necessary to be successful in our world. Teachers observe the inability of students to solve social issues with friends and other day-to-day decisions without the help of a teacher. While many would comment that it is a result of the parenting of our times, it is the school's job to prepare them with this critical skill. We are taxed with preparing our students for jobs at the top of the chart – the high-paying knowledge work jobs of today and tomorrow that require complex skills, expertise and creativity. Many of the jobs of the future do not even exist today!

The Class will:

- Provide Creative Problem Solving (CPS) training: A systematic process of solving problems with the help of a resource group (students) and a facilitator (myself). Students will learn the steps of the process: identifying a goal/wish/challenge, clarifying the problem, gathering data, generating ideas (divergent thinking), select & strengthen solutions (convergent thinking), and planning for action.

- Be a place that encourages creative expression without the conforming rules that schools must have to conduct order. This environment will encourage play, creation, and accept all ideas.

- Emphasize deferring judgment: a key element in encouraging creative development and expression, where students support and build upon the ideas of others.

- Work on idea fluency: exercises to help students think of many ideas/options on solving problems and making decisions. Having many options to pick from increases the chances that they will solve problems correctly and make good decisions.

- Teach ways to select and strengthen ideas and choices through convergent thinking tools.

- Learn information about their brains ability to grow and be strengthened not only by learning new things in core subjects but through playing and using their imagination.

- Investigate the importance of attitude in solving problems and being a top performer in school, sports, friendships etc.

Conclusion

It is in the best interest of the students and school to start a class designed to deliberately teach creative thinking and creative problem solving. Skills taught in this class will help the students become better citizens and advocates for themselves. A result of the class will be that students will be doing the "right" thing and being good decision makers because they are good *problem solvers*. Problems that are addressed through the character education program are addressed discreetly through the class, which can positively influence the attitude kids have for "doing the right thing." I plan to use Molly Clauss as a resource and reinforce some of her ideals taught in Friendship Club. This class would be something EFS could proudly advertise to current and perspective parents as we are proactively educating our students with the necessary creativity skills alongside our excellent academic and technology curriculums. This class would certainly be new to the area because there are less than 500 people in the world that have a Masters degree in Creative Studies. Please consider approving this proposal and working with me to create this class.

"…the highest form of intelligence is thinking creatively." – Sir Ken Robinson, PhD.

Appendix B. Card sort slides and pictures

How can we teach comparing fractions?
What are all the ways?
- 2 fractions - ck w/ cross mult. (teach)
- circle fraction
- pattern blocks
- show how to X mult. show again

- same numerator, smaller denominator is bigger # ($\frac{1}{2}$ $\frac{1}{3}$ ↗ bigger pieces)
→ less to make a whole
→ show w/ pattern blocks
- $\frac{7}{12}$ $\frac{3}{4}$ ← common denominator
- decimal form

$\frac{7}{12}$ $\frac{3}{4}$ → $\frac{6}{12}$ is half $\frac{2}{4}$ is half ↗ bigger b/c fourths are bigger

Concerns
- ? what if they don't get it? 45min
- they might ask questions we don't know.
- don't be a know-it-all
- they might say they don't need help have them teach us something
- misunderstand - do examples of them

Appendix C. Creativity questionnaire and selected fourth grade responses

Name: _____

What is your definition of "creativity?" Write a sentence or two.

Creativity is_____

_____

_____

Why are YOU a creative person?

_____

_____

_____

_____

_____

What are creative people like? What are some of their characteristics?

_____

_____

_____

_____

Why is creativity important?

_____

What is your definition of "creativity?" Write a sentence or two.

Creativity is something that everybody has. People who have creativity are smart. like Steef Jobs

What is your definition of "creativity?" Write a sentence or two.

Creativity is thinking of new ideas. It can also be making something new. They try something out for the first time.

What are creative people like? What are some of their characteristics?

Some strange and creative people have been smart, and brave, because you have to have curage to show your opinion.

What are creative people like? What are some of their characteristics?

Creative people are people that can turn a mistake into something wonderful. They have alot of ideas and love to create.

What are creative people like? What are some of their characteristics?

Creative people can come up with strategies. They can invent new things. Creative people have to be courageous to state their opinion, even if everyone thinks it's crazy.

Why is creativity important?

Creativity is what keeps us alive if we were not creative we would die of starvation, no homes, and health.

Why is creativity important?

Creativity is important because with out dreamers, colors, and nature people wouldn't live the live we have today. Without color everything would be dull. Without dreams inventions wouldn't have been named.

Why is creativity important?

my life would be dull without creativity